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to see any object in the assigned place. It may safely be concluded, therefore, that no star as bright as 6–7 mag. exists in the place given for B.A.C. 5,255, and the entry should, accordingly, be struck out wherever it occurs in the Occultation Section of successive *Nautical Almanacs*, up to and including that for the year 1895.

Nautical Almanac Office :
1894 *June* 5.

On the Orbit of OΣ 82. By J. E. Gore.

The angular motion of this binary pair from 1845·96 to 1892·00 has been only 82° ; but I find that the motion has been round the apoastron end of the ellipse, and that a considerable arc of the apparent orbit has been described between the above dates. I have computed the orbit by the Glasenapp-Kowalsky method, and find the following provisional elements :

Elements of OΣ 82.

$P = 90\cdot54$ years. $☊ = 21° 32'$
$T = 1827\cdot36$ $\lambda = 339° 32'$ (or $20° 28'$)
$e = 0\cdot335$ $a = 0''\cdot80$
$i = 52° 7'$ $\mu = -3°\cdot976$

The value of λ, 339° 32′, is measured in the direction of the position angles, and 20° 28′ in the direction of the orbital motion, which is retrograde.

The following is a comparison between the measures used in calculating the orbit and the positions computed from the above elements.

Epoch.	Observer.	θ_o	θ_c	$\theta_o-\theta_c$	ρ_o	ρ_c	$\rho_o-\rho_c$
		°	°	°	″	″	″
1845·96	Mädler	231·7	234·96	−3·26	0·9	0·68	+0·22
1848·66	O. Struve	230·4	227·05	+3·35	1·04	0·75	+0·29
1866·73	Dembowski	195·9	196·6	−0·7	0·94	1·05	−0·11
1879·695	Burnham	179·4	177·9	+1·5	0·54	0·93	−0·39
1891·01	Hall	151·56	151·98	−0·42	0·79	0·68	+0·11
1892·00	Burnham	149·3	148·67	+0·63	0·62	0·65	−0·03

Assuming that the mass of the system is equal to the mass of the Sun, the "hypothetical parallax" would be

$$p = \frac{a}{P^{\frac{2}{3}}} = 0''\cdot04.$$

The magnitudes of the components are 8·0 and 8·7, and the approximate position of the star for 1880·0 is

R.A. $4^h\ 15^m\ 55^s$
Decl. $+14°\ 46'$.

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Note on the Variable Star U *Orionis.*
By Lieut.-Col. E. E. Markwick.

Up to date of writing, observations of this star have been secured at Gibraltar this season on thirty-three nights, commencing January 7 and ending April 3. They were made, as in former years, with a binocular magnifying five times. I have never been able in past years to get so many observations and so close together, about the time of maximum. The maximum, therefore, so far as my own observations go, can, I think, be allocated with considerable confidence to 1894 February 8. I base this determination on three observations, as follows:

Feb. 6	$6^{\mathrm{m}}{\cdot}07$	In the Harvard Scale, as nearly as possible.
9	$6^{\mathrm{m}}{\cdot}27$	
10	$6^{\mathrm{m}}{\cdot}07$	

On no other occasion was the star so bright as on February 6 and 10; hence the mean gives fairly enough the date of maximum—viz. February 8.

A maximum was observed by me about 1892 January 23 (see p. 604, vol. lii.). From this date to that of maximum in 1894 there are 747 days. As this corresponds to two periods, it gives as the mean period for those two years 373·5 days. This coincides practically with the period found by Gore on p. 518, vol. l., viz. 373·47 days.

Also, if we take the period elapsed from 1886 December 12 (the first well-determined maximum) to 1894 February 8, we get 2,615 days, corresponding to seven complete periods. This gives as a mean period 373·57 days.

It may therefore be taken that, so far as our observations go at present, we cannot much better the 373·47 days' period for U *Orionis.*

The difference between observation and computation is shown in the following table. The first column (C_1) gives the dates of maxima in the years named, based on Dr. Chandler's period of 371 days; the second (C_2) the same on Mr. Gore's period of 373·47 days. The third column (O) gives the observed maxima, which are the means of all those published ones I have been able to collect—viz. by Gore, Sawyer, Yendell, Parkhurst, Dunér, and Markwick. There are only two determinations for 1893, and they have been kindly furnished to me by Mr. Gore. They are by himself and Mr. Corder, and both give February 4 a date of maximum.

It will be seen that the residuals with the 371 day period come out large and gradually increase, while those of the 373·47 day period are much smaller.

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